

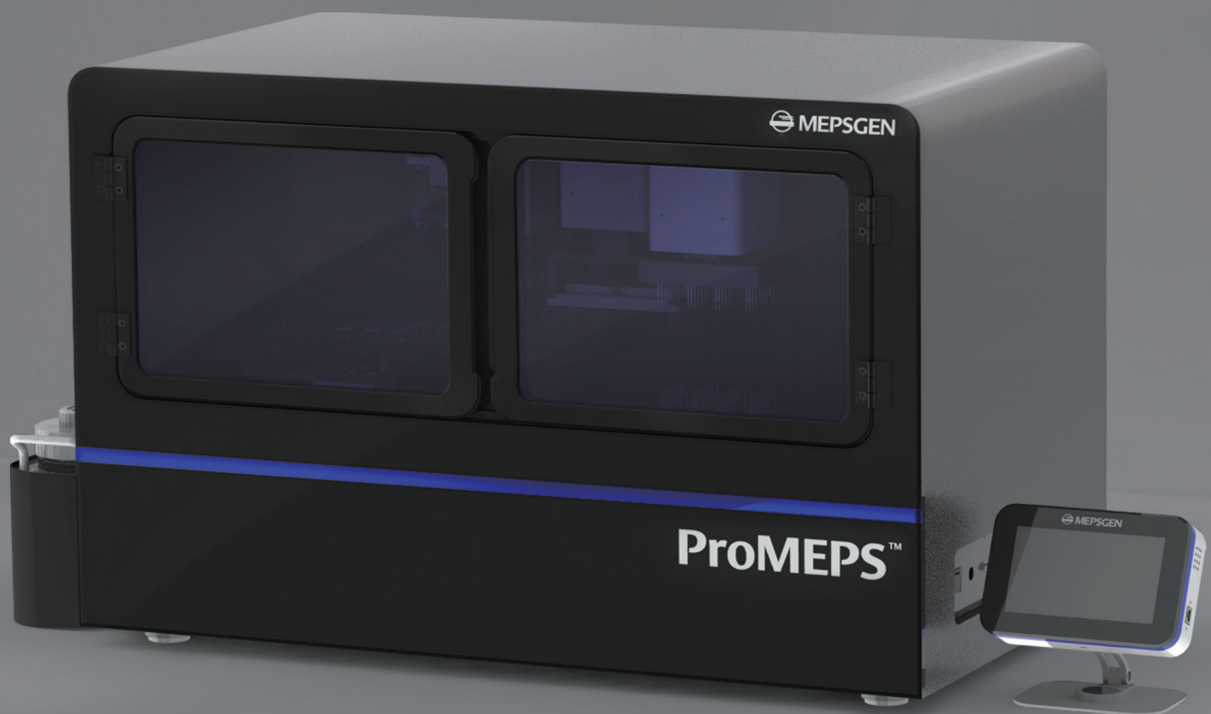
ProMEPS™

Robotic Automation for All-in-One Processing of
Microphysiological System Modeling

HIGH SPEED

HIGH PRECISION

HIGH REPRODUCIBILITY



HIGH THROUGHPUT

GOOD USER CONVENIENCE

ProMEPS™

Guiding and Enabling the Next in the Future of Drug Development

The Microphysiological System (MPS) also known as Organ-on-a-chip is a microscale device that mimics the structure of key tissues of human organs and recapitulates organ-level function of human physiology.

ProMEPS™ enables high-speed, high-precision, high-throughput modeling of MPS for key organs including brain, liver, lung, kidney, skin, vasculature, and tumor microenvironment in testing drugs. Automated robotic operation in ProMEPS™ provides highly reproducible modeling and good user convenience, ensuring cost-effective drug development.

Here you see the next generation of biotechnology!





ProMEPS™

Discovery to Preclinical Human Testing in Automation

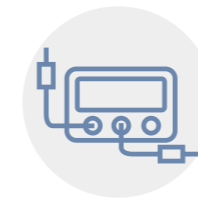


Automated Robotic Operation

- All-in-one system for producing microphysiological models
- Automated robotic operation with high accuracy and reproducibility
- Protocols optimized and programmed for tissue-to-tissue barriers of various organ models
- Efficient drug efficacy and safety testing and analysis
- User-friendly interface with customized setting

Accessible, Empowering, and Inclusive

- Highly accurate and reproducible than manual modeling
- User convenience with an easy-to-use control panel using friendly UI interface
- Step-by-step menu options with default and customized option



Automation System



Real-time Monitoring

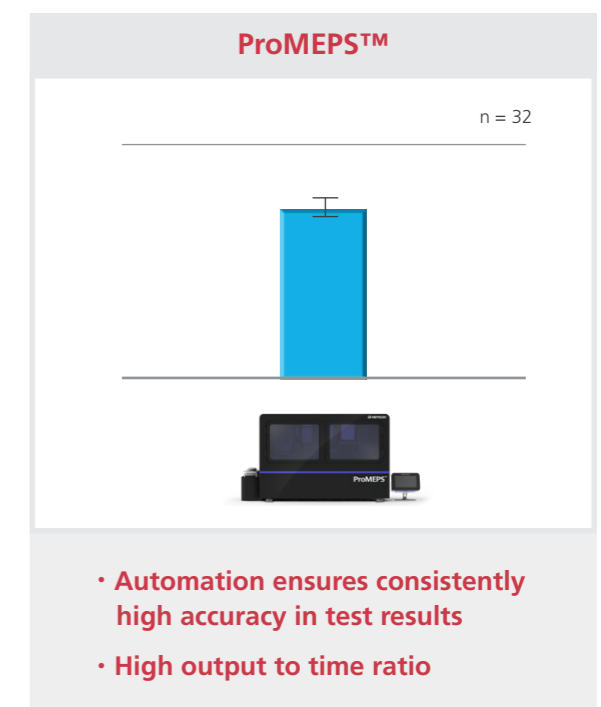
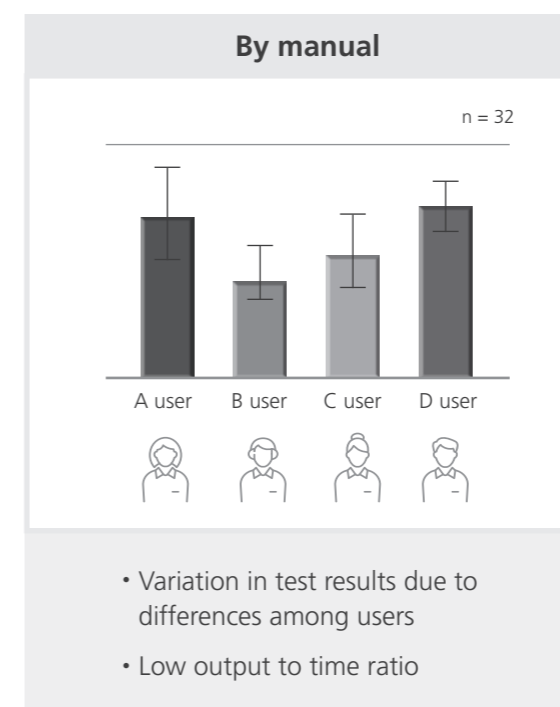


Various MPS Models



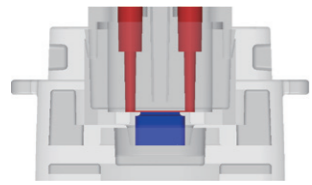
Default/Customized Protocol

High Accuracy and Reproducibility



Model Product Line

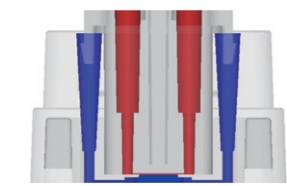
Model Applications



MEPS-TBC-WL

3D Tissue Barrier (lower well type)

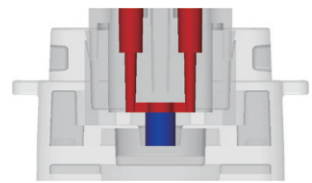
- 2D-3D hybrid tissue-to-tissue barrier modeling
- Physiological shear flow applicable in the upper channel
- Multiple cells and matrices loaded to recapitulate complex 3D human tissue architecture



MEPS-TBC-CH

2D Tissue Barrier (lower channel type)

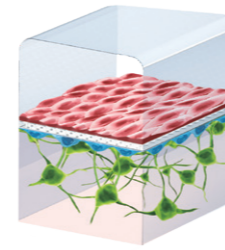
- 2D-2D hybrid tissue-to-tissue barrier modeling
- Physiological shear flow applicable in the upper and bottom channels



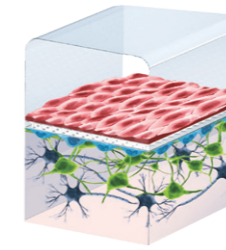
MEPS-ORD

3D Vascularized Organoids

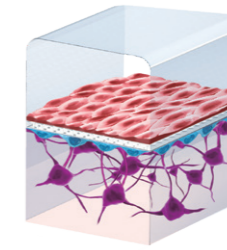
- Vascularized 3D microtissues constructed by 2D-3D hybrid co-culture
- Recapitulating 3D vascular architecture and functions
- 3D tumor microenvironment with vasculature
- Human disease modeling for personalized drug development



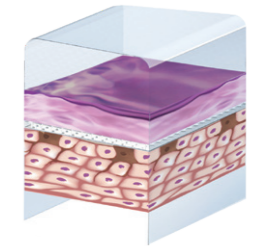
MEPS-BBB



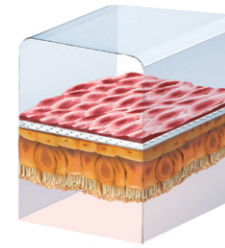
MEPS-NVU



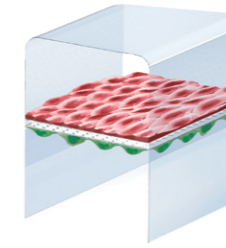
MEPS-BRB



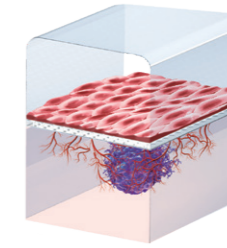
MEPS-STL



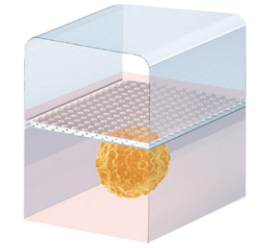
MEPS-SAW



MEPS-GFB



MEPS-TME



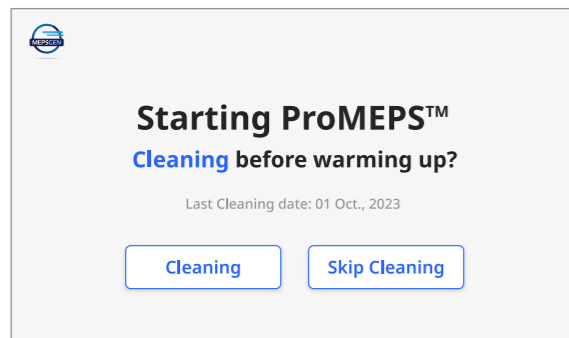
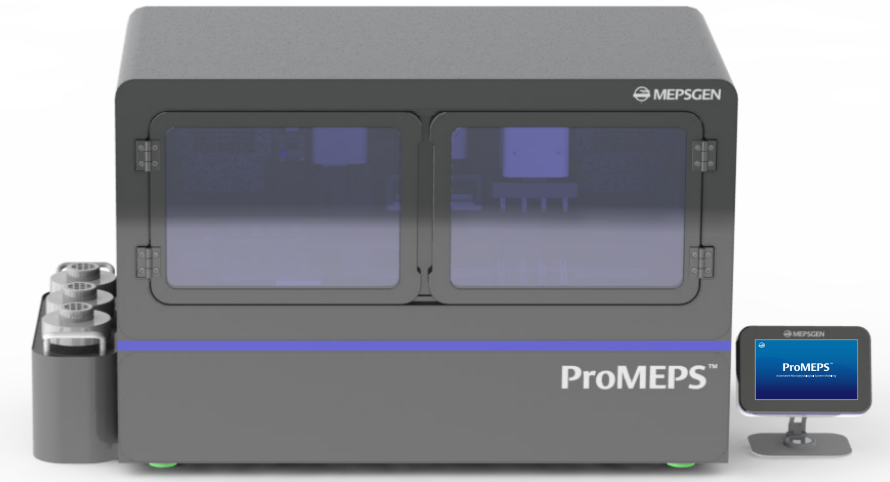
MEPS-ORD

Target Tissue	Product Line	Target Tissue
Brain	MEPS-BBB	Blood-Brain Barrier
	MEPS-NVU	Neuro-Vascular Unit
Eye	MEPS-BRB	Blood-Retina Barrier
	MEPS-CEB	Corneal Epithelial Barrier
Placenta	MEPS-BPB	Blood-Placenta Barrier
Liver	MEPS-HFU	Hepatic Functional Unit
Skin	MEPS-STL	Skin Tissue Layer
Vasculature	MEPS-VEB	Vascular Endothelial Barrier
	MEPS-ANG	Angiogenesis
Lung	MEPS-SAW	Small Airway
Intestine	MEPS-IMB	Intestinal Mucosal Barrier
Kidney	MEPS-GFB	Glomerular Filtration Barrier
Tumor	MEPS-TME	3D Tumor Microenvironment
Organoid	MEPS-ORD	3D Organoid Development

Ready-to-use kit for cryopreservation : Chip (including the cells) + Culture Media + Culture Protocol (document & video clip)

User Interface Guide

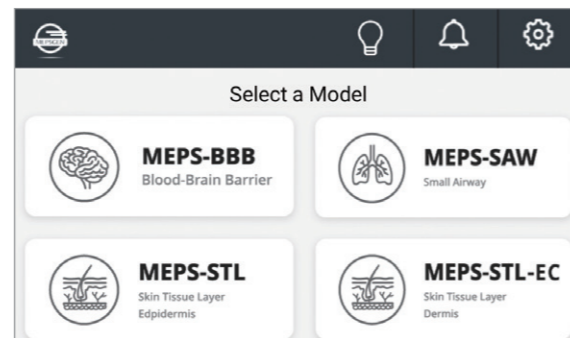
A comprehensive guide to understanding the user interface



1

Cleaning & Warming Up

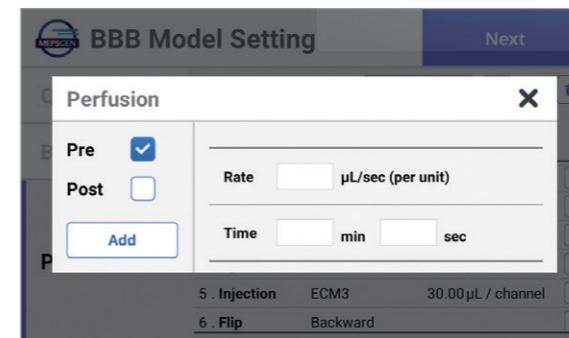
Initiate the cleaning and warm-up process before starting the modeling operation



2

Model Selection

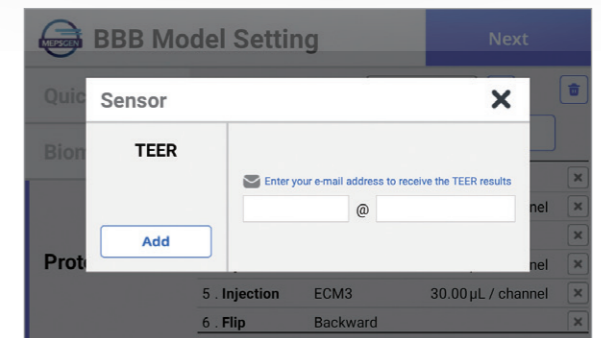
Select an MPS model to build



5

Perfusion Setting

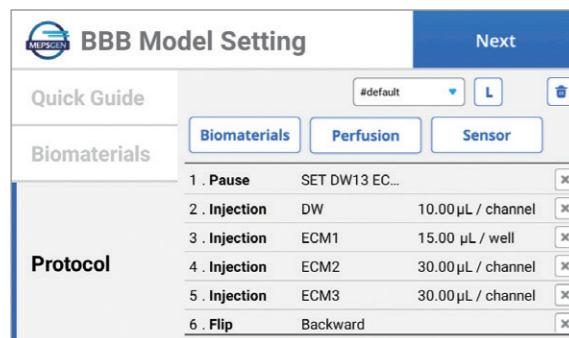
Set a shear flow for mimicking tissue environment (e.g., blood flow on vascular endothelium)



6

Sensor Setting

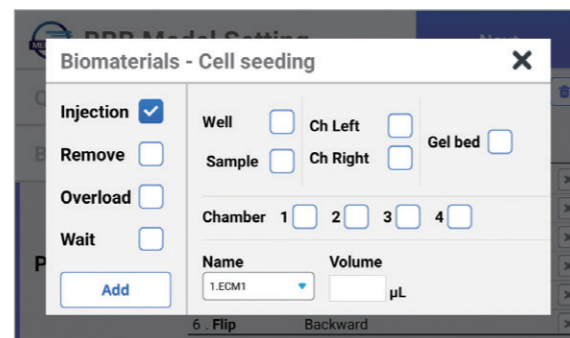
Set a sensor module for model monitoring (e.g., impedance for barrier function integrity)



3

Quick Guide and Protocol Setting

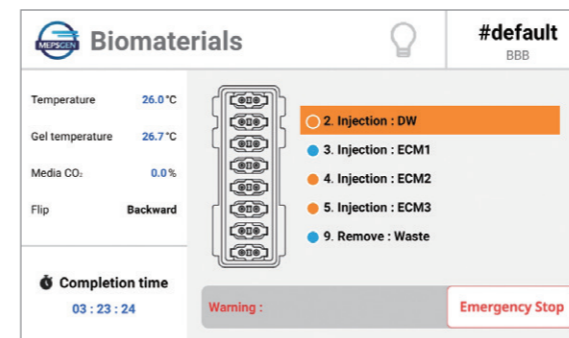
Check programmed and updated protocols



4

Biomaterial Preparation

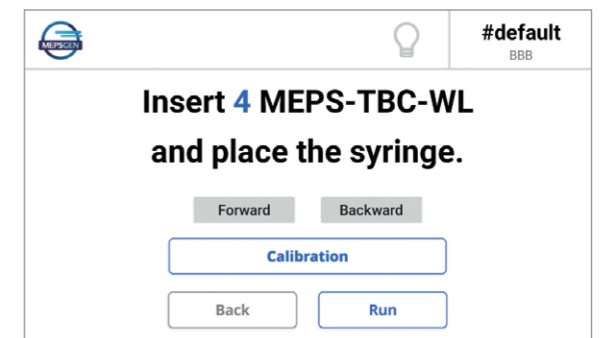
Customize cellular and acellular components as needed



7

Modeling Display

Check the modeling process in real time



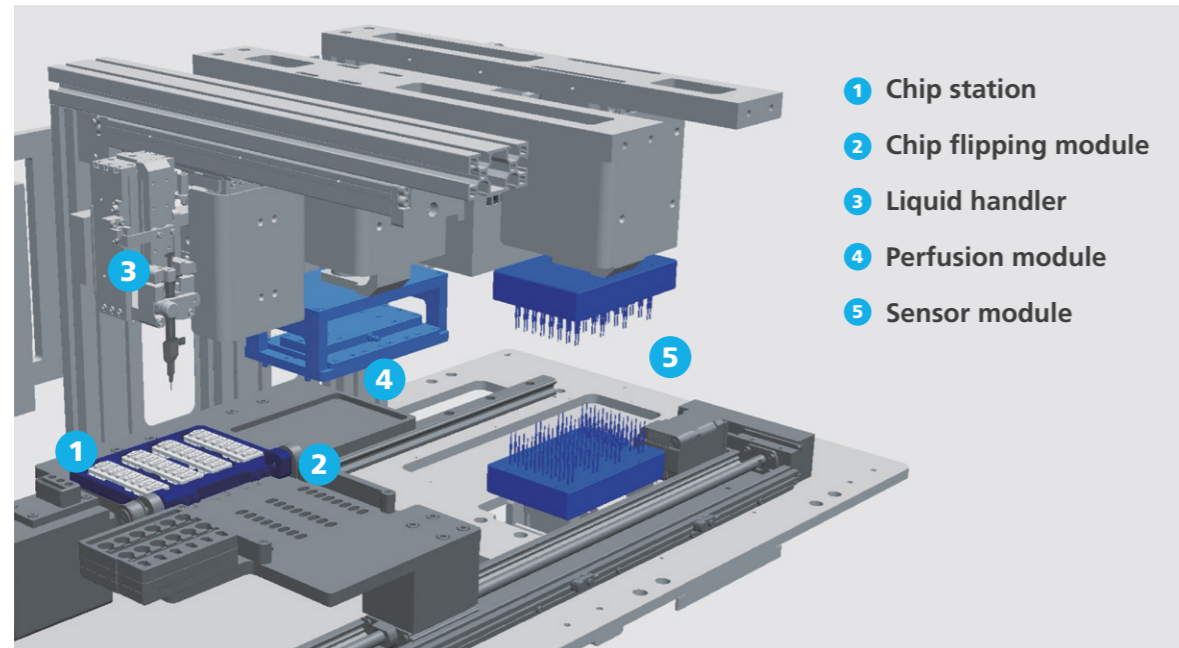
8

Completion

See the models produced when ready

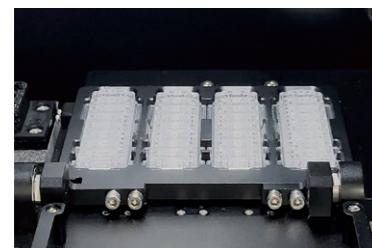
Technology

Configuration



Automated Workflow

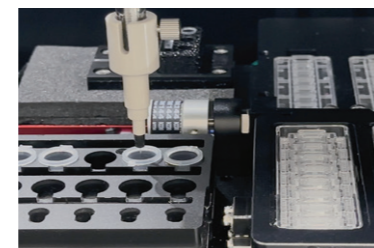
Technical overview of operational process



Chip Preparation



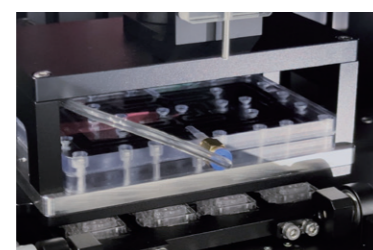
Chip Positioning



Extracellular Matrix Coating



Accurate Cell Seeding



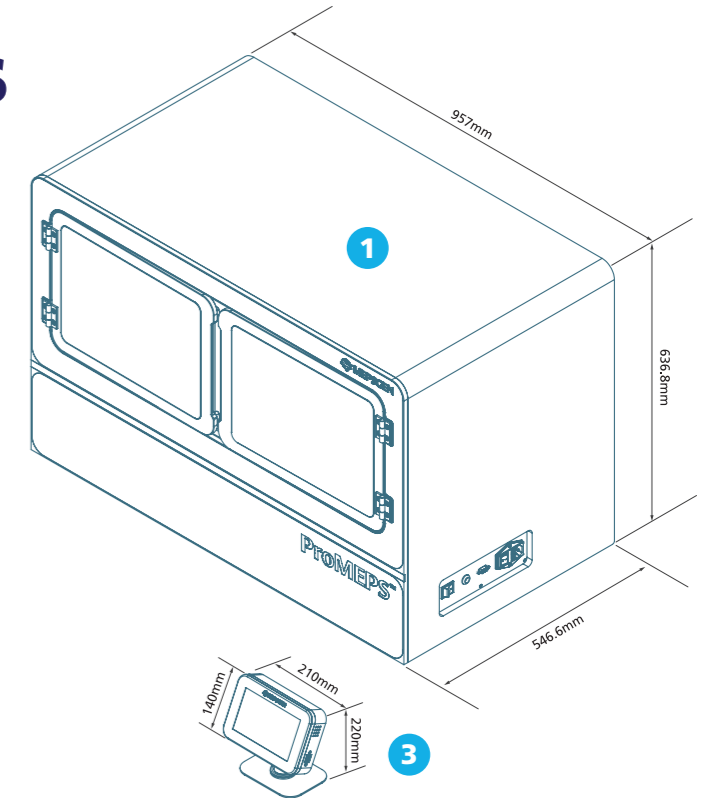
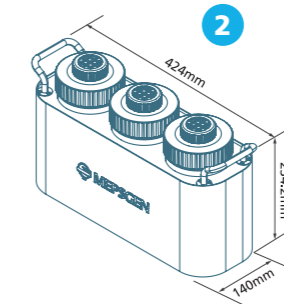
Perfusion (Shear Flow)



Integrity Monitoring (e.g. Impedance)

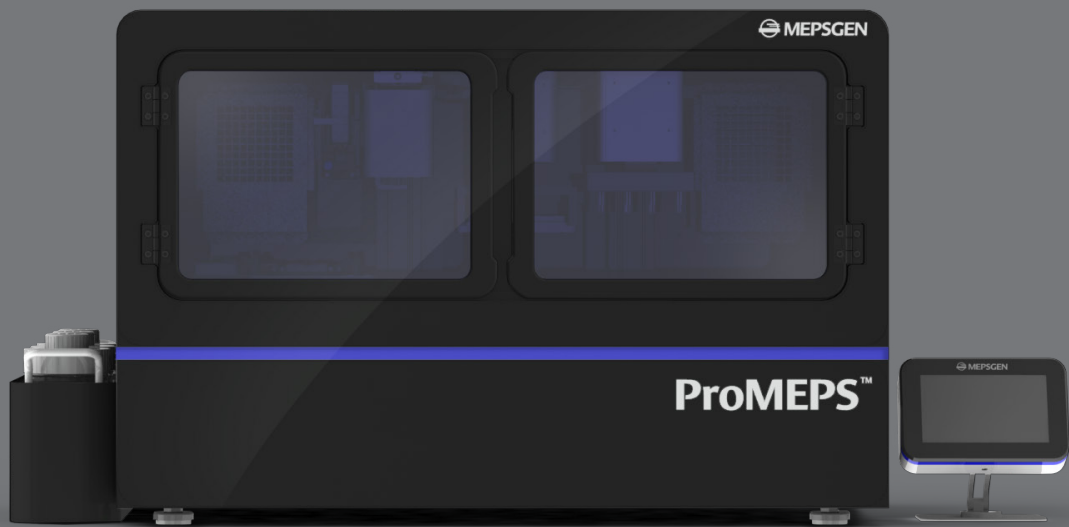


Specifications



- 1 Device
- 2 Media and waste
- 3 Touch screen

General	Model	ProMEPS™
	Weight	105 kg
	Power Consumption	Max 831 W
Operating Requirements	Electrical Power	200 ~ 240 VAC, 60 Hz 100 ~ 130 VAC, 50/60 Hz
	Gas Input Pressure	1.2 bar
	Gas Input Composition	100% CO ₂
Environmental	Operating Temperature	20 ~ 30°C
	Relative Humidity	30~60% RH
	Storage Temperature	10 ~ 60°C
	Storage Humidity	30 ~ 70%
Technical	Gas Control Range	1~20%
	Gas Output Flowrate	200 mL / minute (for Media)
	Temperature Control Range	Room temperature ~ 45°C
	Impedance Channel	32
	Impedance Measurement Range	0 ~ 100 kΩ
Interface	Display	1024 * 600 pixel
	Touchscreen	Capacitive type
	Connection	Ethernet, Wifi



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